

Protein Synthesis Review

1. Genetic information is coded in the sequence of _____ in DNA, and this sequence determines the sequence of _____ in the protein molecule.
2. There are _____ different amino acids in proteins and 4 different _____ in DNA. With _____ (#) nucleotides specifying each amino acid, 64 “words” are possible in the language of nucleotides.
3. Protein synthesis involves deoxyribonucleic acid and _____.
4. There are 3 differences between DNA and RNA:
 - a. The sugar component of RNA is _____, which contains 5 oxygen atoms, where deoxyribose has _____.
 - b. The pyrimidines in RNA are _____ and _____, where in DNA they are _____ and _____.
 - c. RNA is usually _____ - stranded, where DNA is double stranded.
5. The 3 forms of RNA involved in protein synthesis are _____, _____, and _____.
6. Messenger RNA consists of a single strand of _____ that forms along one strand of the _____ helix.
7. _____ RNA molecules are relatively short, about 80 _____, and are partially coiled to form a clover leaf. Although they are formed in the nucleus, they are found primarily in the _____.
8. Protein synthesis begins when a strand of _____ forms along the DNA template in the cell nucleus, a process known as _____.
9. The strand of mRNA is a ‘negative print’ of the sequence of _____ in the strand of DNA.

10. The strand of mRNA then travels into the _____, probably through pores in the nuclear _____.
11. There are at least _____ different kinds of tRNA molecules, all formed from DNA.
12. Each type of tRNA attaches to a specific _____.
13. At the other end of the tRNA molecule is a nucleotide triplet called an _____ since it matches the mRNA triplet called a _____.
14. The function of the _____ is to orient mRNA, tRNA, amino acids and the growing protein chain in relationship to each other.
15. The process of elongation begins when another _____ molecule bonds to the adjacent codon in the _____, bringing the first 2 amino acids into position to form a _____ bond, and releasing the first _____ molecule.
16. As the process continues, the amino acids are brought into line, one by one, following the order specified by the _____, and are linked into a _____ chain.

LABEL:



